

FIG. 1

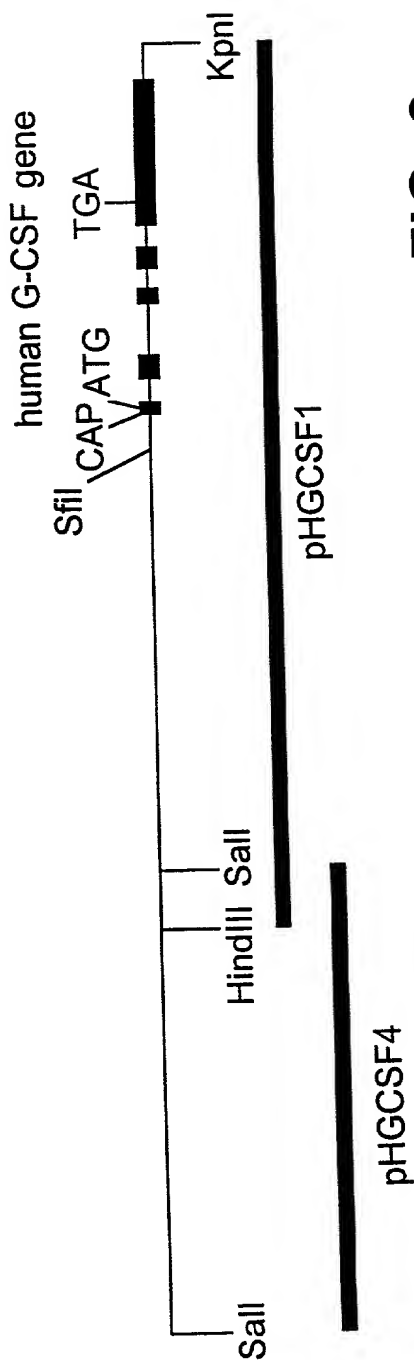


FIG. 2

-6597	Sall (-6596)	GTCCACCTGC	AGGTCAACGG	ATCACTTGAG	GACAGTAGTT	CAAGACCAGC	CTGGGCAGCA	TAGGAGACT	GTCTCTACGA	AAAATCAAAA	AATATATGGC
-6497		GGGCATGGTG	GCTCACGTCT	GTAATCCCTG	AACCTTTGGGA	CATCAAGGCA	AGTGGATCAC	TTGAGGTCAG	GAGTTCGAGA	CTAGCCTGGC	CAACATGGTG
-6397		AAACCCATATC	TCCACTAATA	AATACAAAA	TTAGCCAGGC	ATGGTGGCAG	GCACCTGTAA	TCCCGGTAC	TCAGGAGGCT	GAGGCAGGAG	AATCACTTGA
-6297		ACCCAGGAGG	CGGAGGTTGC	AGTGAGCTGA	GATCACACCA	CTGCACCTCCA	GGCTGGGTGA	CAGAGCAAGA	CTCTATCTCA	AAAAAATAAA	AAAAAATAAA
-6197		AAATTAGCCA	GGCATGGTAG	TGCACACCTC	TAGTCTCAGC	TACTCAGGAG	GGCTGAGGTG	GAGGATCACT	TGAACCTGGG	GCAGTCAAGG	CTACAGTGAG
-6097		CCAAGATCAT	GCCACTACAC	TCCAGCCTGG	GCAACAGAGA	GAGACCCTGT	CTCTAAAAAA	ATAATAATAA	TAAAGAAAAA	AACAGCTCTG	TTTATGTCTC
-5997		CTGGTCCATA	CATACTACTA	TGTATATAGT	TTGCAAACTC	AAAGATCCAG	ATAGTCAATT	TTTTAGGCTT	GTGGGCCCGTA	TGGTCTCTGT	CACAATCACT
-5897		CTGCCCTGTC	TTTCTAGCAC	AAAAGCAGCT	ATAAACATAA	CATACATGAA	TTTTTTATAG	ACATCGAGAT	TTGAATTTCA	TATGATTTTT	ACATTTTATA
-5797		AAATAATCTT	TTTAAAAATT	TTCCCTTAAC	CAITTTAAAG	TGTAAGAACC	GGCCAGCGCG	CCATCTCTAC	GCCTGTAATT	CCAGCACTTT	GGGAGGCTGA
-5697		GGTGGGCAGA	TCACCTTGAG	TCAACAGTTC	GAGACCAGCC	TGGCCAACAT	AGCAAAACCC	CAITTTCTACT	AAAAATAAAA	AAATTAGCTG	GGCATAGTGG
-5597		TGCACACCTG	TGATCCCAGC	TACTTTGGAG	GCTGAGGAG	GAGAAATCGT	TGAAACCTGG	AAGCGGAGGT	TGCAGTGAGC	CAACATCAATG	CCACTGCACT
-5497		CCAGCCTGGG	TGACAGAGTG	AGACTTCGTC	TCAACGAAAA	AAAAAAGTGT	AAAAAGCCATT	CCTAATTCAG	TGTACATCACT	TGTACATCACT	CAGGCTCTGG
-5397		TACTTCCTGCT	CTGAGGCATA	CCTGAGAAAT	AGAGTTGCTT	GGTCACAGGA	CATACACATT	TCCACATTA	CTAGACACTA	CCAAGTTGCC	ATCCAAGGAG
-5297		GTATTTTTTT	TACAATCTAC	ACTCCCCCA	GCAACAAATG	AGAGTTACTC	CAGATCCTTT	ACAAAGATGC	TCTAAGCCCA	GTACCAGATG	AAAAACAGGA
-5197		GTGGGAGGGG	AAGCTGCCAG	CCCCCTCTAA	CCATGAAGAA	ATACCTGGTA	GAGCCTTCTG	GATGCTGGAA	GGATGAATAA	CGGGGTCTC	TGGAGCCTGC
-5097		CCCCCTGTCAG	ATCACTGTGA	CTTCTGAGCC	TCCAGTCCAG	TCTCAGCCCC	ATGTGTCATG	GGCAGTGATA	ATGAGCCCTC	ACTCTCTGTT	TGGTCTTTAT
-4997		TCCTCCCCATG	TGGGGCTGAA	GTCTGGATTG	AGCCGTTTAT	CAAGATGTAC	AGCTTTCTTG	ACAGGAAAGT	AGTGTACAG	AAACAGCAGG	GGCTTGGCAA
-4897		GATGATCTAA	CTGCAAAATCC	TACCTGGCTC	AGCCACCAGC	TAGTCTCTGT	ATCTTGAACA	AGTTTTTTCA	CTTCTCTGAG	GCCATCCCTT	GGCTACAACA
-4797		CACCACTTGG	TTGACAGGAT	GAAATGACGA	AGTCCCTTAC	ACCTGTAAATC	CCAGCACTTT	GGGAGGCCCA	GGCGGTGGA	TGGCTTGAGC	CTGAGAGGTG
	SphI (-4693)										
-4697		ACAGCATGCC	GGCAGTCTCT	ACAGCCCTCG	TTTCGCTCTCG	GGGCTCTCTC	TGCCCTGGGT	CCCACTTCGG	TGGCACTTGA	GGAGCCCTTC	AGCCCAACCG
-4597		TGCACCTGTTG	GAGCCCCCTT	CTGGGCTGGC	CAAGGCCAGA	GGCGGCTCCC	TCAGCTTGCA	GGGAGGTGTG	GAGGCAGAGG	CTCAAGCAGG	AACCGGGGCT
-4497		GGCACGGGG	CTTGGGGGCC	AGCTGGAGTT	CCGGGTGGGC	GTGGGCTTGG	CGGGCCCCCG	ACTGGAGCA	GGGGGCCAGC	CCTGCCAGGC	CCCGGGCAAT

SmaI (-4406)

FIG. 3A

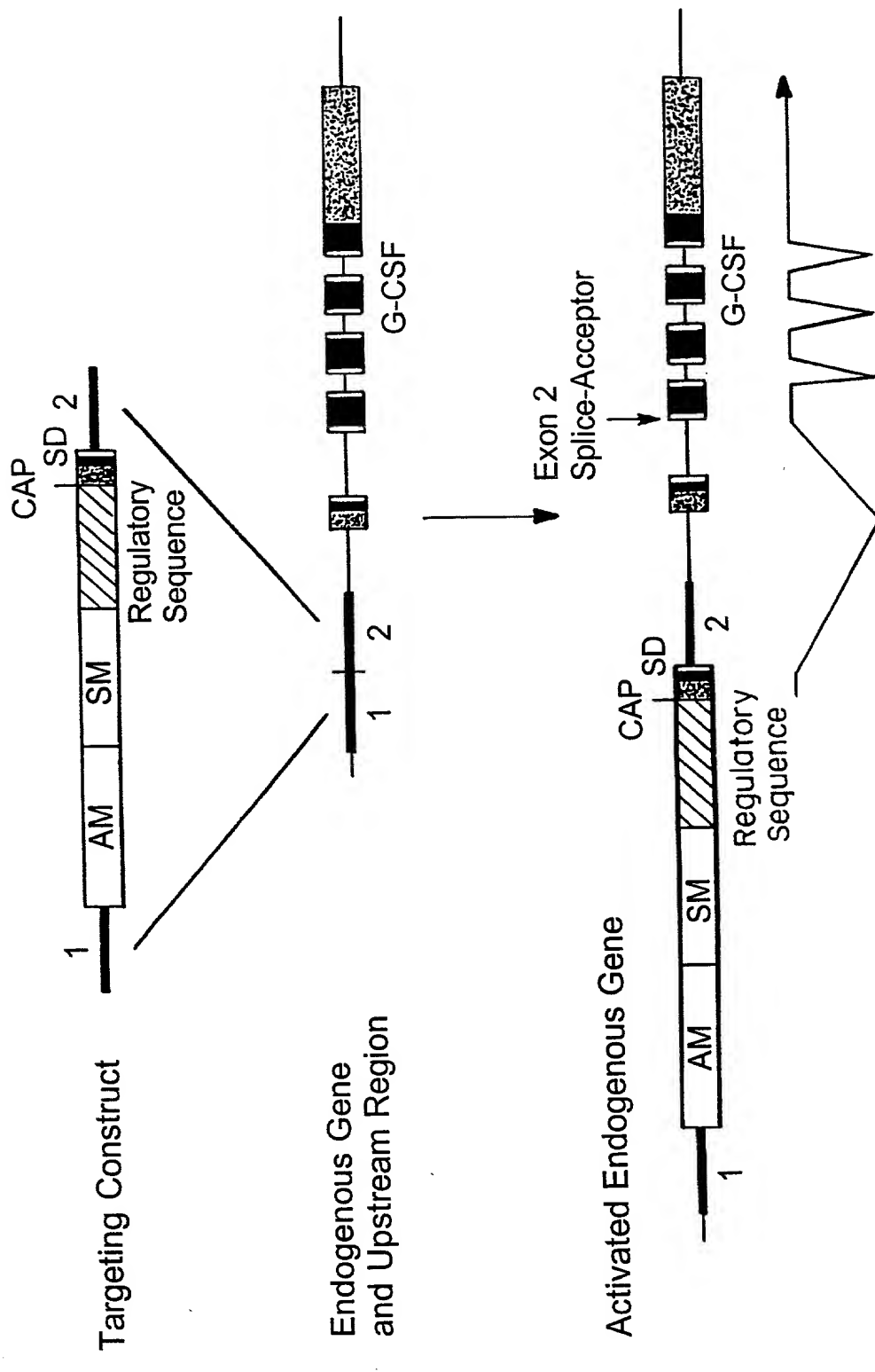
-4397 GAGAGGCTTA GCACCCGGG CAGCGGTGC GGAGGTGTA CTGGGTGCC CAGAGTGC AGCCCGCCG CGCTGTGCTC GCTCGATTTC TCACTGGGGC  
 -4297 TTAGCAGCCT TCCCGCGGG CAGGGCTCGG GACTTCAGC CCGCATGCC TGAGCCTCCC CTCCATGGG TCCTGTGCGG CCGGAGCCTC CCCGACGAGC  
 -4197 ACCACCCCT GCTCCACAGC GCCCAGTCCC ATCAGCCACG ATCAGCCACG CAAGGGCTGA GAAGTGCGG CCGACGGCAC CGGACTGCG AGGACGTAC CCCTGCAGCC  
 -4097 CTGGTCCGA ATCCACTGGG TGAAGCCAGC TGGGCTCTG AGTCTGGTG AGACTTGGAG AACTTTATG TCTAGCTCAG GGATCGTAAA TACACCAATC  
 -3997 AGCACCCCTGT GTCTAGCTCA GGTCTGTGA ATGACCAAT ATGACCTCAG CCACACTCAG TATCTAGCTA CTCTGATGG GCCTTGGAG ACCTTTATG CTAGCTCAGG  
 -3897 GATTGTAAAT ACACCAATCG GCACTCTGTA TCTAGCTCAA GGTGTGAAA CACACCAATC AGCACCTGT GTCTAGCTCA GGTATGTGA ATGACCAAT  
 (-3722) HindIII  
 -3797 CGACAGTCTG TATCTGGCTA CTTTCATGGG CATCCGTGTG AAGAGACCAC CAAACAGGCT TTGTGTGAG AATAAGCTT CTATCACCTG GGTGCAGGTG  
 -3697 GCTAGTCTC GAAAGAGAG TCAGGGAAG AGATAAGGT GGGCCGTTT TATAGGATTT GGTAGGTAA AGGAAATTA CAGTCAAAG GGTGTGTTC  
 -3597 TCTGGCCGG CAGGAGTGG GGTGCGAAG GTGCTCAGT GGGTGCCTT TTGAGCCAGG ATGAGCCAGG AAAGGACTT TACAAAGGTA ATGTCATCAA  
 -3497 TTAAGGCAAG GACCCGCCAT TTACAGCTCT TTGTGTGTG TTGTGTGTG AATGTCATCA GTTAAAGTTT GGGCAGGGC ATATTCACTT TCTTCAGTTA  
 -3397 CTTCAGGCCA TCTGGGCGTA TATGTGCAAG TTACAGGGGA TGGGATGGCT TGGCTTGGG TCAGAGGCTT GACAGCTACT CTGGTGGGC CTTGGAGAAAT  
 (-3290) SalI  
 -3297 GTTGTGTG ACACCTCTGTA TCTAGTTAAT CTAGTGGGA CGTGGAGAAC CTTGTGTCT AGCTCAGGA TTGTAAAGC GGCCTGTCAA  
 -3197 AACAGACCAC TCGGCTCTAC CAATCAGCAG GATGTGGTG GGGCCAGATA AGAGAATAAA AGCAGGCTG CCGAGCCAGC AGTGCAACC GCACAGGTCC  
 -3097 CTATCCACAA TATGGCAGCT TTGTCTTTT GCTGTGTGG ATAAATCTTG CTACTGCTG CTTTGTGGT CCACACTGCT TTTATGAGCT GTAACACTCA  
 -2997 CCACGAAGGT CTGCAGCTTC ACTCCTGAAG CACTCTGAAG CCACTAAGAC CACGAGCCCA CCGGAGGAT GAACAATCC GAACTGAGC TATAACACTC  
 -2897 ACCGGAAGG TCTGCAGCTT CACTCCTCAG CACTCCTGAG CACTCGAGG GTCCGCGGT TCCTTCTTGA AACTGAGG ACCAAGCACT CACCAGTTTC GGACACAAGC  
 -2797 CAGATGCACC ACCTTAAGAG CTGTAACACT TGGGCAACAT GATGAAATGC CCTCTCTGCA AAAAAAAA AATTACAAA AATTGCGG GTCCGTTGTC CGTGGCCTGT  
 -2697 CCAGGAGTTT GAGATCAGC GAGATCAGC TAAAGTTGG AGGATCGCTT GAGCCTGGGA GGTGAAGACT GCAGTGAGCT GCAGTGTAC CACAGCCCTC TAGGCTGGGG  
 -2597 GGTCCAGCT ACGCCGAGG CCCCCTCGCA AAAAAATGA CAAAAGTGA ATAAAGGTG CCAATATGG CCTGATATGG CTAGGTGAG TGGCTCATGC CTGTAATCCC  
 -2497 GACAGACTGA GACCCCTGTT AGCCGCGGTC ACCTAAGGTC AGGAGTGTGA GACCAGCCTG GCCAACATGG AGAAAGCCCA TCTCTTCTAA AATACAAAA  
 -2397 AGCACTTTGG GAAGCCGAGG CCGGCGGCTC SphI (-2269)  
 -2297 TTAGCCGGCT GTGGGGGCG TGGTGAGCA TGGCTGTAAAT CCCAGCTACT CAGGAGGCTG AGGCAGGAGA ATCAGTTGA CCCAGGAGC GCGGTTGCA  
 -2197 GTGAGCCGAG ATCGTGCCAT TGCATCCAC CCACCTCCAG CTGGGCAACA AGAGCCAAAC TCTGTCTTAA AAAAAAAA AAAGTGCTG ACATATAAGA  
 -2097 GGTGTGCAAT GCATAGTTGC CAGGCAACAT GTTTAAGAA GTTGAGCTCC TGCTTCCAT GGTCTGTAA AAAAAACC CTAAGGCCA GGTGCAGTGG  
 -1997 CTATGCTTA TAATCCAGC ACTTTGGAG GCGGAGGCGG GTGATCACC TGAGGTGAG AGTTCGAGC CAGCCTGACC ACCAACATGG TGAATCCCA

FIG. 3B

-1897 CCCTCTACTAA AAATACAAAA TTAGATGAGC ATGGTGGTGC ATGCTGTAA SphI (-1858) TCCACCTAC TGGGAGGCTG AGGCAGGAA ATCACTAGAA CCAGGAGGC  
 -1797 GGAGGTGTGA GTAGCCGAG ATCGTCCAT TGCACCTCAG CCTGAGCAAT GAGCGAACT CCATCTCAA AAAACAACA CAATAACCCA CTCTCTACTC  
 -1697 CAGGAGCTG GGTACAGAG TGGGCCACAT CAGTCAAGG TGCTGAGCCA CAGAGCTAAG GGCACGTGA GGACCGCGA CCAGATAACA GTGTGTAGA  
 -1597 TCAGTGTGTG AGATCAGAGC TCCCTGCCAT TCGTCCCAT TGGTGACCAC CAGGGGCC CCAAGCACCA GAGATGCC CATCCAGTCA CCACATCCAC TTCTCATCCA  
 -1497 GAGATGTCTG TTCTTTGGCA CGCTGGGTA AATTAGGACA GAAGTGACA GTCTTGGGTG TGTTCAGTCA GACTGCCCA GGCAGGCTT GTGGCTGTAG  
 -1397 AAAACGTTCA GGCCTAGCG CGACGTGGCT CACGCTGTTA ATCCAGCAC TTTGGGAGG CGAGCGGGT GGATCACGAG GTCAGGAGAT CGTGACCATC  
 -1297 CTGGCTAACA CGGTGAAC CCGTCTCTAC TAAATAATACA AAAAATGGC CGGCATGGT GCGGGGCACC TGTAGTTCCA GCTACTCGG AGGCTGAGGC  
 -1197 AGGAGATGG GTGAACCGA GAGGAGAGT TTGCAGTAG CCGACTGCAC TCCAGCCTGG GGCACAGAG GGCACCTCC TCCCTGGCCA GTTCACGGG  
 -1097 AAAGAAAC GTTCAGGTCT GAGCCAGAG CCCAGGCTGT AATCTGTCA CTTACCATGA GATGAGAAGA TGGGSCAGTT TCCCTCTCT CACCCAGCC CGTGTCCACT  
 -997 TTGGAATCGA CTCCAAGTC CCTTCCAGCA TTAAAGCTGC ATGGTTCTAA GATGAGAAGA GGCCTTGGGA CCCTACTGTC AGGTCTGTC ACAGGAGGT GAAGTCAAG  
 -897 TCAAGGTGAA TGACCAGGA AGTCACGTGT CCCAATCCG CAGTTCAAA GGCCTTGGGA TTCTCTGGC TCTACCGGAT TCAAGGTG TGGTGGGCAC AGCAGCCAAAG  
 -797 TGAGCCAATC GCTTGAAGG GTCTTGCCTC ATTCGGGACA GACATCCGT TTCTCTGGC TCTACCGGAT TCAAGGTG TGGTGGGCAC AGCAGCCAAAG  
 -697 GCGGGGGTT TCTGGGAGT TCCAGCTAA TCAACTTGA CAGACAGCT GGAACCTTTCG ATGGTGCCTA TCCAGGTG GTAGGAGTGG GATGAAATGG GATCTCTTTT  
 -597 ACCCAATGC CTTATCTCAG GTAGGGCTC AGGAGGTCT CCAGACAGG AGCTTCCGA AGCTTGGG GTAGGAGTGG GTAGGAGTGG GATGAAATGG GATCTCTTTT  
 -497 TTCCTCTCTTA GAATTGGG GCTTGGGGA CAGGCTTGAG AATCCAAAG GAGAGGGGA AAGGACATC CCCCACAACT CTGCCAGAGC GAGAGAGGA  
 -397 GACCCCGACT CAGCTGCCAC TTCCCCACAG GCCTCTGCCG CTTCAGGGG TCTATCAGCG GCTCAGCCTT TGTTCAGTG TCTGTTCAA ACACCTCTGG  
 -297 GCCATTACG CCTGGGTGG GCAGCGGGAG GAAGGGAGTT TGAGGGGGG, AAGGCGAGT CAAAGGAGGA TCAGAGATTC CACAATTTC CAAAACCTTC  
 -197 GCAACAGCT TTTTGTTC ACCCCCCTGC ATGTCTTTG ACACCAATTT TGCATAATC CTGGGAAGTT ATTACTAAGC CTTAGTCTGT GCCCCAGGTA  
 -97 ATTTCTCTCC AGGCCTCCAT GGGGTTATGT ATAAAGGGC CCTAGAGCT GGGCCCCAAA ACAGCCCGGA GCCTGCAGCC CAGCCCCACC CAGACCCCATG  
 TATA box (-67) CAP (-34) ATG (1)  
 intron 1 (41) 1►Met

4 GCTGGACCTG CCACCCAGAG CCCCATGAAG CTGATGGGTG AGTGTCTTGG CCCAGGATG (SEQ ID NO: 1)  
 2►AlaGlyProA laThrGlnSerProMetLys LeuMet (SEQ ID NO: 2)

FIG. 3C



**FIG. 4**

GATCACTTGAGGACAGTAGTTCAAGACCAGCCTGGGCAGCATAGGGAGACTGTCTCTACGAAAAA  
 TCAAAAAATTATGGCCGGGCATGGTGGCTCACGTCTGTAAATCCCTGAACTTTGGGACATCAAGGC  
 AAGTGGATCACTTGAGGTCAGGAGTTCGAGACTAGCCTGGCCAACATGGTGAAACCCTATCTCCA  
 CTAAAAAATACAAAAATTAGCCAGGCATGGTGGCAGGCACCTGTAATCCCGGCTACTCAGGAGGC  
 TGAGGCAGGAGAATCACTTGAACCCAGGAGGCGGAGGTTGCAGTGAGCTGAGATCACACCACTGC  
 ACTCCAGCCTGGGTGACAGAGCAAGACTCTATCTCAAAAAAATAAAAAAATAAAAAATTAGCC  
 AGGCATGGTAGTGACACCTCTAGTCTCAGCTACTCAGGAGGCTGAGGTGGGAGGATCACTTGAA  
 CCTGGGGCAGTCAAGGCTACAGTGAGCCAAGATCATGCCACTACACTCCAGCCTGGGCAACAGAG  
 AGAGACCCTGTCTCTAAAAAATAATAATAATAAGAAAAAACAGCTCTGTTTATGTCTCCTGG  
 TCCATACATACTACTATGTATATAGTTTGCAAACCTCAAAGATCCAGATAGTCAATTTTTTAGGCT  
 TGTGGGCCGTATGGTCTCTGTCAACATCACTCTGCCCTGTCTTCTAGCACAAAAGCAGCTATAA  
 ACAATACATACATGAATTTTTTATAGACATCGAGATTTGAATTTTATATGATTTTTTACATTTTAT  
 AAAATAATCTTTTTAAAAATTTTCCCCTAACCATTTAAAAGTGTAAGGCCGGCCAGGGCGCCAT  
 CGTCACGCCTGTAATTCAGCACTTTGGGAGGCTGAGGTGGGCAGATCACTTGAGATCAACAGTT  
 CGAGACCAGCCTGGCCAACATAGCAAAACCCCATTTCTACTAAAAAATAAAAAATTAGCTGGGCA  
 TAGTGGTGCACACCTGTGATCCCAGCTACTTGGGAGGCTGAGGCAGGAGAATCGCTTGAACCTGG  
 GAAGCGGAGGTTGCAGTGAGCCAACATCATGCCACTGCACCTCCAGCCTGGGTGACAGAGTGAGAC  
 TTCGTCTCAACGAAAAAAGTGTAAGGCCATTCCTAATTCAGTGATACATCAGTGATACATAC  
 TCAGGTCTGCGTACTCCTGCTCTGAGGCATACCTGAGAAGTAGAGTTGCTTGGTCAACAGGACATA  
 CACATTTCCACATTAAGTAGACACTACCAAGTTGCCATCCAAGGAGGTTTTTTTTTTTACAATCTA  
 CACTCCCCCAGCAACAAATGAGAGTTACTCCAGATCCTTTACAAAGATGCTCTAAGCCCAGTAC  
 CAGATGAAAACAGGAAGTGGGAGGGGAAGCTGCCAGCCCCCTTCTAACCATGAAGAAATACCTGGT  
 AGAGCCTTCTGGATGCTGGAAGGATGAATAACGGGGGTCTCTGGAGCCTGCCCCCTGTGAGATCA  
 CTGTGACTTCTGAGCCTCCAGTCCAGTCTCAGCCCCATGTGTGATGGCCAGTGATAATGAGCCCT  
 CACTCTCTGTTTGGTCTTTATTCTCCCCATGTGGGGCTGAAGTCTGGATTGAGCCGTTATTCAAG  
 ATGTACAGCTTTCTTGACAGGAAAGTAGTGTACAGAAACAGCAGGGGCTTGGCAAGATGATCTA  
 ACTGCAAATCCTACCTGGCTCAGCCACCAGCTAGTTCTGTGATCTTGAACAAGTTTTTCACTTC  
 TCTGAGGCCATCCCTTGGCTACAACACACCAAGTTGGTTGACAGGATGAAATGACGAAGTCCCTTA  
 CACCTGTAATCCCAGCACTTTGGGAGGCCAAGCGGGTGGATGGCTTGAGCCTGAGAGGTGACAG  
 CATGCCGGCAGTCTCTCAGGCCCTCGTTGCTCTCGGCCCTCCTCTGCCTGGGCTCCCACTTCG  
 GTGGCACTTGAGGAGCCCTTCAGCCCACCGCTGCACTGTGGGAGCCCTTTCTGGGCTGGCCAAG  
 GCCAGAGCCGGCTCCCTCAGCTTGCAAGGAGGTGTGGAGGGAGAGGCTCAAGCAGGAACCGGGGC  
 TGCGCACGGCGCTTGCGGGCCAGCTGGAGTTCCGGGTGGGCGTGGGCTTGGCGGGCCCCGCACTC  
 GGAGCAGCGGGCCAGCCCTGCCAGGCCCGGGCAATGAGAGGCTTAGCACCCGGGCCAGCGGCTG  
 CGGAGGGTGTACTGGGTGCCCCAGCAGTGCCAGCCCCGGCGCTGTGCTCGCTCGATTTCTCAC  
 TGGGCCTTAGCAGCCTTCCCGCGGGGCAGGGCTCGGGACCTGCAGCCCGCCATGCCTGAGCCTCC  
 CCTCCATGGGCTCCTGTGCGGCCCCGAGCCTCCCCGACGAGCACCACCCCTGCTCCACAGCGCCC  
 AGTCCCATCGACCACGCAAGGGCTGAGAAGTGCGGGCGCACGGCACCGGGACTGGCAGGCAGCTA  
 CCCCCTCAGCCCTGGTGCGGAATCCACTGGGTGAAGCCAGCTGGGCTCCTGAGTCTGGTGGAGAC  
 TTGGGAGAACCTTTATGTCTAGCTCAGGGATCGTAAATACACCAATCAGCACCCCTGTGTCTAGCTC  
 AGGGTCTGTGAATGCACCAATCCACACTCTGTATCTAGCTACTCTGATGGGGCCTTGGAGAACCT  
 TTATGTCTAGCTCAGGGATTGTAAATACACCAATCGGCACTCTGTATCTAGCTCAAGGTTTGTAA

FIG. 5A

ACACACCAATCAGCACCCCTGTGTCTAGCTCAGGGGTATGTGAATGCACCAATCGACAGTCTGTATC  
 TGGCTACTTTTCATGGGCATCCGTGTGAAGAGACCACCAAACAGGCTTTGTGTGAGCAATAAAGCT  
 TCTATCACCTGGGTGCAGGTGGGCTGAGTCCGAAAAGAGAGTCAGCGAAGGGAGATAAAGGGTGGG  
 GCCGTTTTATAGGATTTGGGTAGGTAAAGGAAAATTACAGTCAAAGGGGGTTTGTCTCTGGCGG  
 GCAGGAGTGGGGGGTTCGCAAGGTGCTCAGTGGGGGTGCTTTTTTGAGCCAGGATGAGCCAGGAAAA  
 GGACTTTTACAAGGTAATGTCATCAATTAAGGCAAGGACCCGCCATTTACACCTCTTTTGTGGTG  
 GAATGTCATCAGTTAAGTTGGGGCAGGGCATATTTACTTCTTTTGTGATTCTTCAGTTACTTCAG  
 GCCATCTGGGCGTATATGTGCAAGTTACAGGGGATGCGATGGCTTGGCTTGGGCTCAGAGGCTTG  
 ACAGCTACTCTGGTGGGGCCTTTGGAGAATGTTTGTGTGACACTCTGTATCTAGTTAATCTAGTG  
 GGGACGTGGAGAACCTTTGTGTCTAGCTCAGGGATTGTAAACGCACCAATCAGCGCCCTGTCAAA  
 ACAGACCACTCGGCTCTACCAATCAGCAGGATGTGGGTGGGGCCAGATAAGAGAATAAAAGCAGG  
 CTGCCCCGAGCCAGCAGTGGCAACGCGCACAGGTCCCTATCCACAATATGGCAGCTTTGTTCTTTT  
 GCTGTTTGGGATAAATCTTGCTACTGCTCGCTTTTTTGGGTCCACACTGCTTTTATGAGCTGTAAC  
 ACTCACCACGAAGGTCTGCAGCTTCACTCCTGAAGCCACTAAGACCACGAGCCACCGGGAGGAA  
 TGAACAACCTCCGGCCGCGCTGCCTTAAGAGCTATAAACAACCTCACCAGCAAGGTCTGCAGCTTCACT  
 CCTCAGCCAGCGAGACCACGAACCCACCAGAAAGGAAAGAACTGCGAACACATCTGAACATCAGAA  
 GGAACAAACTCCAGATGCACCACCTTAAGAGCTGTAACTCACTGCGAGGGTCCGCGGCTTCCT  
 TCTTGAAGTCAGTGAGACCAAGCACTCACCAGTTTTCGGACACAAGCCCAGGAGTTTGAGATCAGC  
 CTGGGCAACATGATGAAATGCCCTCTCTGCAAAAAAATAAATAAATAAATTGGCGGAGCAT  
 GGTGGTCCGTGCTGTGGTCCAGCTACGCGGGAGGCTAAAGTGGGAGGATCGCTTGAGCCTGGG  
 AGGTGAAGACTGCAGTGAGCTGTGATTGTACCACAGCCCTCTAGGCTGGGGGACAGACTGAGACC  
 CTGTTTCCCTCCGCAAAAAATTGACAAAAGTGTAAAGAGGTGCCTGATATGGCTAGGCGCA  
 GTGGCTCATGCCTGTAATCCCAGCACTTTGGGAAGCCGAGGCGGGCGGGTCACCTAAGGTCAGGA  
 GTGTGAGACCAGCCTGGCCAACATGGAGAAAGCCCATCTCTTCTAAAAATACAAAATTAGCCGGC  
 TGTGGGGGAGTGGTGGAGCATGCCTGTAATCCAGCTACTCAGGAGGCTGAGGCAGGAGAAATCA  
 CTTGAACCCAGGAGGCGGGGCTTGCAGTGAGCCGAGATCGTGCCATTGCACTCCACCCACTCCAG  
 CCTGGGCAACAAGAGCCAACTCTGTCTTAAAAAAGTGCCTGACATAAAGAGG  
 TGTGCAATGCAATAGTTGCCAGGCAACATGTTTAAAGAAATGTGGAGCTCCTGCCTTCCATGGTCTT  
 GTTAAAAACCCACCTCAAGGCCAGGTGCAGTGGCTCATGCCTATAATCCAGCACTTTGGGAGG  
 CCGAGGCGGGTGGATCACCTGAGGTGAGGATTCGAGACCAGCCTGACCACCAACATGGTGAAAT  
 CCCACCTCTACTAAAAATACAAAATTAGATGAGCATGGTGGTGCATGCCTGTAATCCACCTACT  
 TGGGAGGCTGAGGCAGGAAAACTACTAGAACCAGGGAGGCGGAGGTTGTAGTGAGCCGAGATCGT  
 GCCATTGCACTCCAGCCTGAGCAATGAGCGAACTCCATCTCAAAAAACAACAACAAAAACCCA  
 CTCTCTACTCCAGGGAGCTGGGTACAGAGCTGGGCCACATCAGTGCAAGGTGCTGAGCCACAGA  
 CTAAAGCCGAGCTGCAGGACCGCGGACAGATTAACAGTGTGTGAGATCAGTGTGTGAGATCAGA  
 CGTCCCTGCCATTGGTGAACACCAGGGGGCCCCAACGACCCAGAGATGGCCCCATCCAGTCAACA  
 CATCCACTTCTCATCCAGAGATGTCTGTTTCTTGGCACGCTGGGGTAAATTAGGACAGAAGGTGA  
 CAGTCTTGGGTGTGGTCAGTCAGACTGCCCCAGGCAGGCTTGTGGCCTGTAGAAAACGTTTCAGG  
 CCTAGGCCGGGCACGGTGGCTCACGCCTGTAATCCAGCACTTTGGGAGGCCGAGGCGGGTGGAT  
 CACGAGGTGAGGAGATCGTGACCATCCTGGCTAACACGGTGAAACCCCGTCTCTACTAAAAATAC  
 AAAAAATTGGCCGGGCATGGTGGCGGGCACCTGTAGTTCCAGCTACTCGGGAGGCTGAGGCAGGA  
 GAATGGCGTGAACCCGAGAGGCAGAGTTTGCAGTGAGCCGAGATCGCGCCACTGCACTCCAGCCT  
 GGGCGACAGAGCAAGACTCCATCTGGAAAAGAAAAAGAAAAAGTTTCAGGTCTGAGCCAGAGGCC  
 AGGCTGTAATTTCTGTCACTTACCATGACCTTGGGCAAGGCACTTCCCTTCCCTGGCCCCAGTTTCAG  
 GGGTTGGAATCGACTCCAAGGTCCCTTCCAGCATTAACGCTGCATGGTTCTAAGATGAGAAGATG  
 GGGCAGTTTCCCTCTCTCACCCAGCCCGTGTCCACTTCAAGGTGAATGACCAGGGAAGGTGAGC  
 TGTCCCAATCCCGCAGTTTCCAAAGCCCTTGGGACCCCTACTGTGAGGTCGTGACAGGAGGCTG  
 AAGGTGAGGTGAGCCAATCGCCTCGAAGGGTCTTGCCTCATTTCGGGACAGACATCCGGTTTCTCT  
 TGGCTCTACCGGGATTCTAGGGGCTTTAGCCGAATGAGTCATGGGGGGCGGGGGGTTTCTGGGG  
 GAGTTCCAGCTAATCAACTTGGGACAGGACAGCCTGGAACCTTTCGATGGTGCCTATCCAAGTGT  
 GGGGTGGGCACAGCAGCCAAGACCCAATGTCCTTATCTCAGGTAGGGGCTCAGGAGGTCTCCAG  
 ACAGGCAGCCTCCGGAGATTTGGGGGTAGGAATGGGAGCAACCAGGCTTCTTTTTTCTCTCTT  
 AGAATTTGGGGGCTTGGGGGACAGGCTTGAGAATCCCAAAGGAGAGGGGCAAGGACACTCCCC  
 ACAAGTCTGCCAGAGCGAGAGAGGAGACCCCGACTCAGCTGCCACTTCCCCACAGGCCT

FIG. 5B

CC GGCAGTCCTC  
 ACAGCCCTCG TTCGCTCTCG GCGCCTCCTC TGCCTGGGCT CCCACTTCGG TGGCACTTGA  
 GGAGCCCTTC AGCCCACCGC TGCAGTGTGG GAGCCCCTTT CTGGGCTGGC CAAGGCCAGA  
 GCGGGCTCCC TCAGCTTGCA GGGAGGTGTG GAGGGAGAGG CTCAAGCAGG AACCGGGGCT  
 GCGCACGGCG CTTGCGGGCC AGCTGGAGTT CCGGGTGGGC GTGGGCTTGG CGGGCCCCGC  
 ACTCGGAGCA GCGGGCCAGC CCTGCCAGGC CCCGGGCAAT GAGAGGCTTA GCACCCGGGC  
 CAGCGGCTGC GGAGGGTGTA CTGGGTGCCC CAGCAGTGCC AGCCCGCCGG CGCTGTGCTC  
 GCTCGATTTT TCACTGGGCC TTAGCAGCCT TCCCGCGGGG CAGGGCTCGG GACCTGCAGC  
 CCGCCATGCC TGAGCCTCCC CTCCATGGGC TCCTGTGCGG CCCGAGCCTC CCCGACGAGC  
 ACCACCCCTT GCTCCACAGC GCCCAGTCCC ATCGACCACG CAAGGGCTGA GAAGTGCGGG  
 CGCACGGCAC CGGACTGGC AGGCAGCTAC CCTGCGAGCC CTGGTGCGGA ATCCACTGGG  
 TGAAGCCAGC TGGGCTCCTG AGTCTGGTGG AGACTTGGAG AACCTTTATG TCTAGCTCAG  
 GGATCGTAAA TACACCAATC AGCACCTGT GTCTAGCTCA GGGTCTGTGA ATGCACCAAT  
 CCACACTCTG TATCTAGCTA CTCTGATGGG GCCTTGGAGA ACCTTTATGT CTAGCTCAGG  
 GATTGTAAAT ACACCAATCG GCACTCTGTA TCTAGCTCAA GGTTTGTAAG CACACCAATC  
 AGCACCTGT GTCTAGCTCA GGGTATGTGA ATGCACCAAT CGACAGTCTG TATCTGGCTA  
 CTTTCATGGG CATCCGTGTG AAGAGACCAC CAAACAGGCT TTGTGTGAGC AATAAGCTT  
 CTATCACCTG GGTGCAGGTG GGCTGAGTCC GAAAAGAGAG TCAGCGAAGG GAGATAAGGG  
 TGGGGCCGTT TTATAGGATT TGGGTAGGTA AAGGAAAATT ACAGTCAAAG GGGGTTTGT  
 CTCTGGCGGG CAGGAGTGGG GGGTCGCAAG GTGCTCAGTG GGGGTGCTTT TTGAGCCAGG  
 ATGAGCCAGG AAAAGGACTT TCACAAGGTA ATGTCATCAA TTAAGGCAAG GACCCGCCAT  
 TTACACCTCT TTTGTGGTGG AATGTCATCA GTTAAGTTGG GGCAGGGCAT ATCACTTCT  
 TTTGTGATTC TTCAGTTACT TCAGGCCATC TGGGCGTATA TGTGCAAGTT ACAGGGGATG  
 CGATGGCTTG GCTTGGGCTC AGAGGCTTGA CAGCTACTCT GGTGGGGCCT TGGAGAATGT

**Sail**

TTGTGTCGAC ACTCTGTATC TAGTTAATCT AGTGGGGACG TGGAGAACCT TTGTGTCTAG  
 CTCAGGGATT GTAAACGCAC CAATCAGCGC CCTGTCAAAA CAGACCACTC GGCTCTACCA  
 ATCAGCAGGA TGTGGGTGGG GCCAGATAAG AGAATAAAAAG CAGGCTGCCC GAGCCAGCAG  
 TGGCAACGCG CACAGGTCCC TATCCACAAT ATGGCAGCTT TGTTCTTTTG CTGTTTGCGA  
 TAAATCTTGC TACTGCTCGC TTTTGGGTG CACACTGCTT TTATGAGCTG TAACACTCAC  
 CACGAAGGTC TGCAGTTCA CTCCTGAAGC CACTAAGACC ACGAGCCCAC CGGGAGGAAT  
 GAACAACCTC GCGCGCGCTG CCTTAAGAGC TATAACACTC ACCGCGAAGG TCTGCAGCTT

**FIG. 6A**



CACTCCTCAG CCAGCGAGAC CACGAACCCA CCAGAAGGAA GAAACTGCGA ACACATCTGA  
ACATCAGAAG GAACAAACTC CAGATGCACC ACCTTAAGAG CTGTAACACT CACTGCGAGG  
GTCCGCGGCT TCCTTCTTGA AGTCAGTGAG ACCAAGCACT CACCAGTTTC GGACACAAGC  
CCAGGAGTTT GAGATCAGCC TGGGCAACAT GATGAAATGC CCTCTCTGCA AAAAAAAAAA  
AAATTACAAA AATTGGCGGA GCATGGTGGT CCGTGCCTGT GGTCCCAGCT ACGCGGGAGG  
CTAAAGTGGG AGGATCGCTT GAGCCTGGGA GGTGAAGACT GCAGTGAGCT GTGATTGTAC  
CACAGCCCTC TAGGCTGGGG GACAGACTGA GACCCTGTTT CCCCTCCGCA AAAAAATTGA  
CAAAAGTGTA ATAAGAGGTG CCTGATATGG CTAGGCGCAG TGGCTCATGC CTGTAATCCC  
AGCACTTTGG GAAGCCGAGG CGGGCGGGTC ACCTAAGGTC AGGAGTGTGA GACCAGCCTG  
GCCAACATGG AGAAAGCCCA TCTCTTCTAA AAATACAAAA TTAGCCGGCT GTGGGGGCAG  
TGGTGGAGCA TGCTGTAAAT CCCAGCTACT CAGGAGGCTG AGGCAGGAGA ATCACTTGAA  
CCCAGGAGGC GCGGTTGCA GTGAGCCGAG ATCGTGCCAT TGCACTCCAC CCACTCCAGC  
CTGGGCAACA AGAGCCAAAC TCTGTCTTAA AAAAAAAAAA AAAAAGTGCC TGACATATAA  
GAGGTGTGCA ATGCAATAGT TGCCAGGCAA CATGTTTAAG AATGTGGAGC TCCTGCCTTC  
CATGGTCCTG TAAAAACCC ACCCTCAAGG CCAGGTGCAG TGGCTCATGC CTATAATCCC  
AGCACTTTGG GAGGCCGAGG CGGGTGGATC ACCTGAGGTC AGGAGTTCGA GACCAGCCTG  
ACCACCAACA TGGTGAAATC CCACCTCTAC TAAAAATACA AAATTAGATG AGCATGGTGG  
TG

FIG. 6B

CCTG TAATCCCACC TACTTGGGAG GCTGAGGCAG GAAAATCACT AGAACCAGGG  
 AGGCGGAGGT TGAGTGAGC CGAGATCGTG CCATTGCACT CCAGCCTGAG CAATGAGCGA  
 AACTCCATCT CAAAAAACA ACAACAAAA CCCACTCTCT ACTCCCAGGG AGCTGGGTAC  
 AGAGCTGGGC CACATCAGTG CAAGGTGCTG AGCCACAGAG CTAAGGCGGA GCTGCAGGAC  
 CGCGGACCAG ATAACAGTGT GTGAGATCAG TGTGTGAGAT CAGACGTCCC TGCCATTGGT  
 GACCACCAGG GGGCCCCAA GCACCAGAGA TGGCCCCATC CAGTCACCAC ATCCACTTCT  
 CATCCAGAGA TGTCTGTTT TTGGCACGCT GGGGTAAATT AGGACAGAAG GTGACAGTCT  
 -1457 TGGGTGTGGT CAGTCAGACT GCCCCAGGCA GGCCTTGTGG CCTGTAGAAA ACGTTCAGGG  
 -1397 CTAGGCCGGG CACGGTGGCT CACGCCTGTA ATCCCAGCAC TTTGGGAGGC CGAGGCCGGT  
 -1337 GGATCACGAG GTCAGGAGAT CGTGACCATC CTGGCTAACA CGGTGAAACC CCGTCTCTAC  
 -1277 TAAAAATACA AAAAATTGGC CGGGCATGGT GGCGGGCACC TGTAGTTCCA GCTACTCGGG  
 -1217 AGGCTGAGGC AGGAGAATGG CGTGAACCCG AGAGGCAGAG TTTGCAGTGA GCCGAGATCG  
 -1157 CGCCACTGCA CTCCAGCCTG GGCGACAGAG CAAGACTCCA TCTGGAAAAG AAAAAGAAAA  
 -1097 CGTTCAGGTC TGAGCCAGAG GCCCAGGCTG TAATTCTGTC ACTTACCATG ACCTTGGGCA  
 -1037 AGGCACTTCC TTCCCTGGCC CAGTTCACGG GGTGGAATC GACTCCAAGG TCCCTTCCAG  
 -977 CATTACGCT GCATGGTTCT AAGATGAGAA GATGGGGCAG TTTCCCTCT CTCACCCAG  
 -917 CCCGTGTCCA CTTCAAGGTG AATGACCAGG GAAGTCACGT GTCCCAATCC CGCAGTTCCA  
 -857 AAGCCCTTGG GGACCCTACT GTCAGGGTCG TGCACGAGGA GGTGAAGGTC AGGTGAGCCA  
 -797 ATCGCCTCGA AGGGTCTTGC CTCATTCGGG ACAGACATCC GGTTTCTCT GGCTCTACCC  
 -737 GGATTCTAGG GGCTTTAGCC GAATGAGTCA TGGGGGGCGG GGGGGTTTCT GGGGGAGTTC  
 -677 CCAGCTAATC AACTTGGGAC AGGACAGCCT GGAACTTTCG ATGGTGCCTA TCCAAGTG

Xcml

FIG. 7